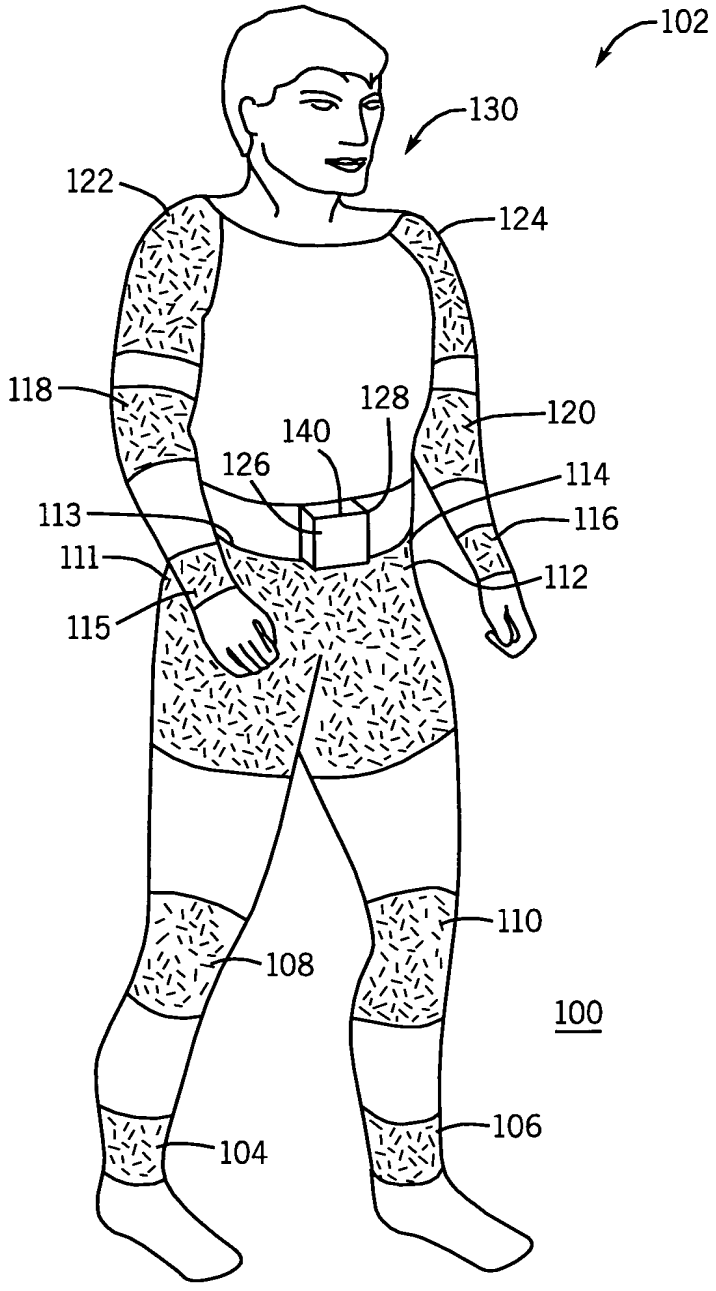
102
130
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106
104

FIG. 1

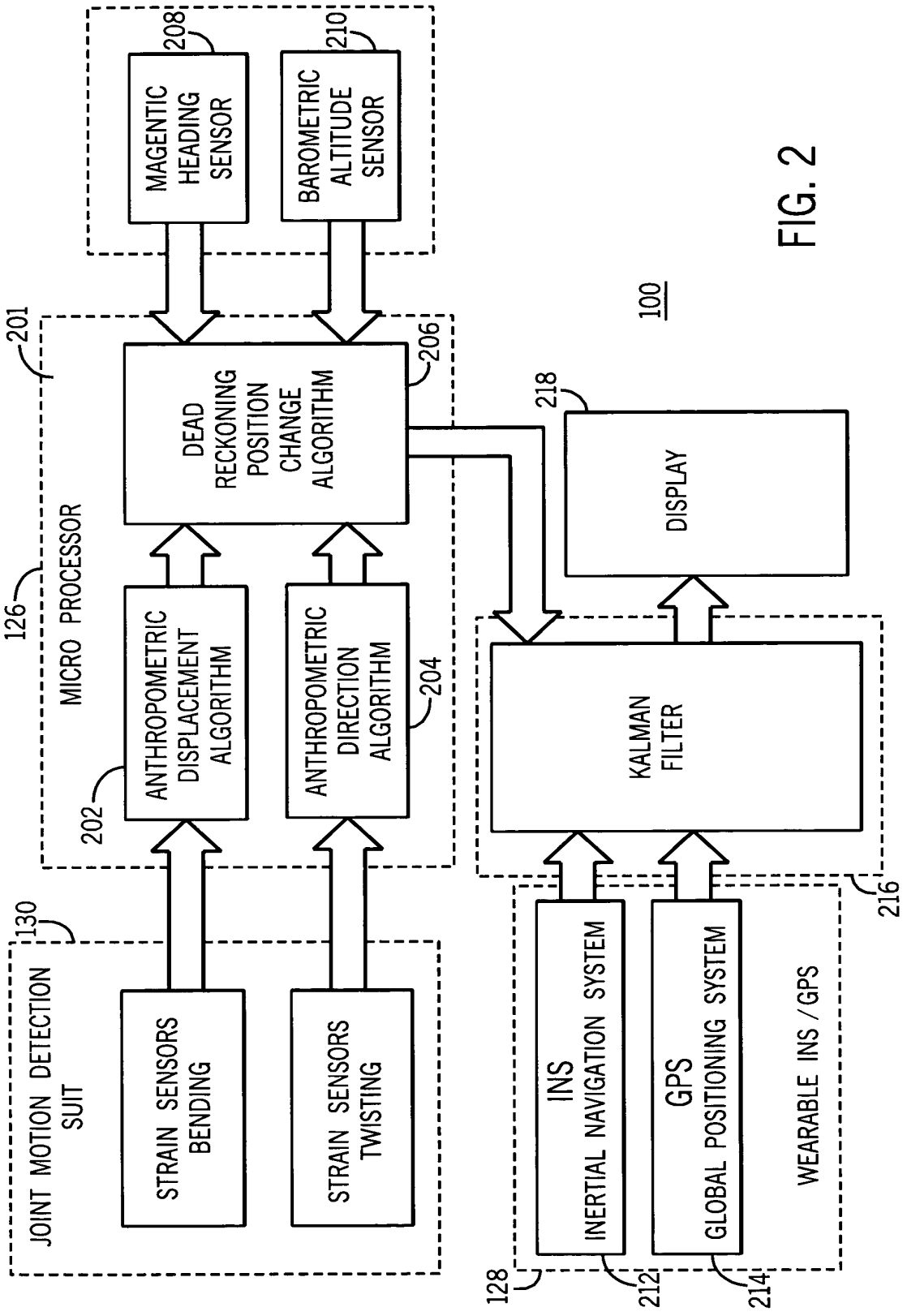
100
MAGENTIC HEADING SENSOR
208
BAROMETRIC ALTITUDE SENSOR
210
201
MICRO PROCESSOR
126
DEAD RECKONING POSITION CHANGE ALGORITHM
206
218
DISPLAY
ANTHROPOMETRIC DISPLACEMENT ALGORITHM
202
ANTHROPOMETRIC DIRECTION ALGORITHM
204
KALMAN FILTER
216
130
JOINT MOTION DETECTION SUIT
STRAIN SENSORS BENDING
STRAIN SENSORS TWISTING
INS
INERTIAL NAVIGATION SYSTEM
GPS
GLOBAL POSITIONING SYSTEM
WEARABLE INS / GPS
128
212
214

FIG. 2

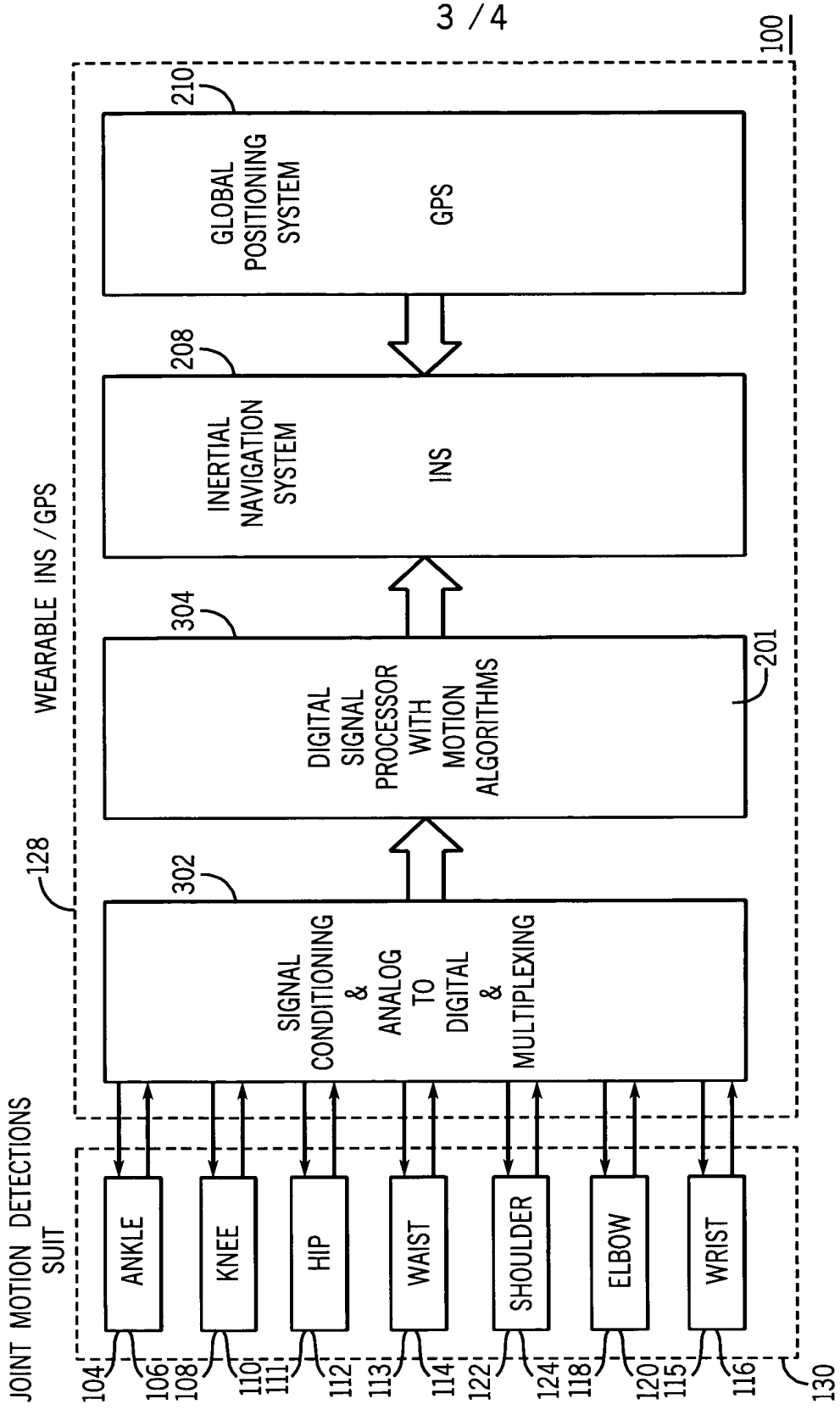
100
WEARABLE INS / GPS
210
GLOBAL POSITIONING SYSTEM
GPS
208
INERTIAL NAVIGATION SYSTEM
INS
304
DIGITAL SIGNAL PROCESSOR WITH MOTION ALGORITHMS
201
128
302
SIGNAL CONDITIONING & ANALOG TO DIGITAL & MULTIPLEXING
JOINT MOTION DETECTIONS SUIT
ANKLE
KNEE
HIP
WAIST
SHOULDER
ELBOW
WRIST
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FIG. 3

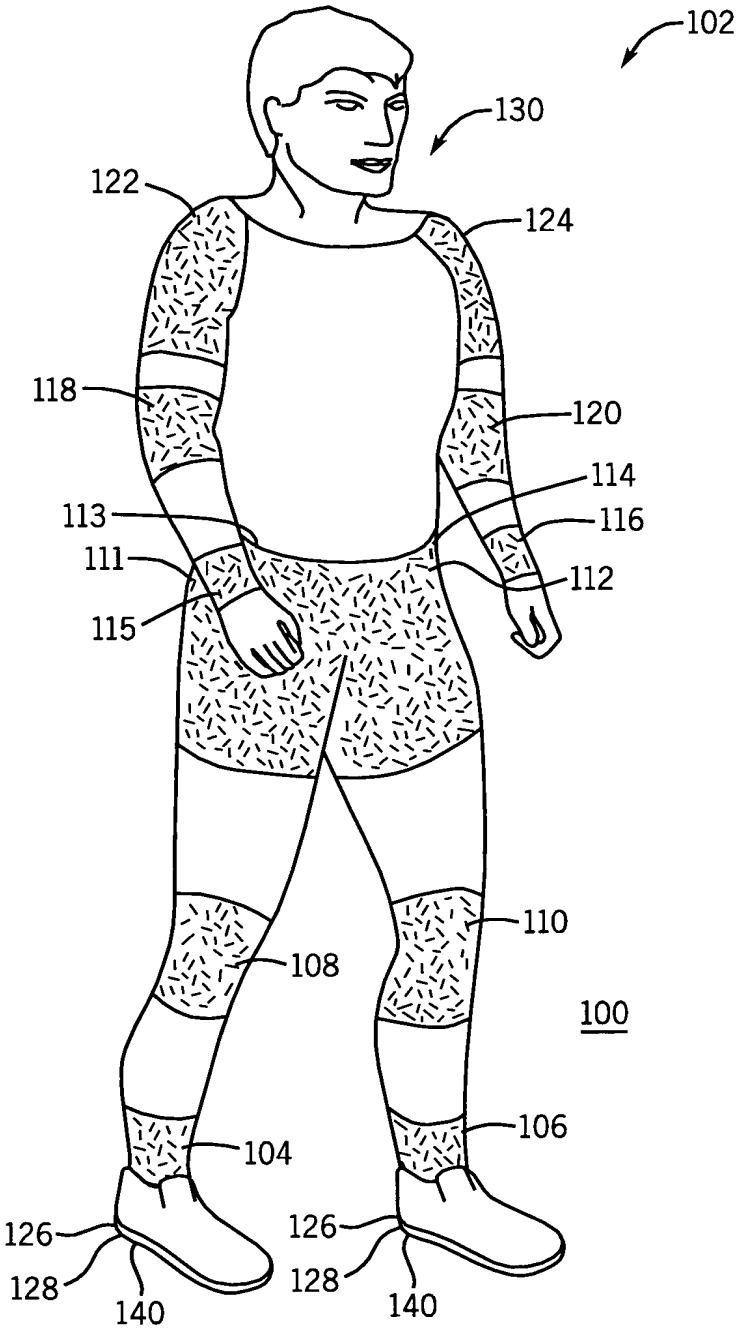
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FIG. 4